

REMARKS

Claims 1-94 were pending in this application when the present Office Action was mailed (September 15, 2003). Claim 51 has been amended to clarify the antecedent basis for a term in the claim. Accordingly, claims 1-94 remain pending in this application.

In the September 15 Office Action, claims 1, 2, 4, 5, 8, 14-16, 18, 19, 35, 36, 51, 57 and 60-66 were rejected. The remaining claims were allowed or indicated to be allowable if rewritten to be in independent form. More specifically, the status of the application in light of this Office Action is as follows:

(A) Claims 1, 2, 4, 5, 8, 14-16, 18, 19, 35, 36, 57 and 60-66 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,288,561 to Leedy ("Leedy") in view of U.S. Patent No. 6,318, 951 to Schmidt et al. ("Schmidt"); and

(B) Claims 51-56 stand rejected under 35 U.S.C. § 112, second paragraph; and

(C) Claims 21-34, 38-50 and 67-94 are allowed, with claims 3, 6, 7, 9-13, 17, 20, 37, 58 and 59 indicated as being allowable if rewritten to be in independent form.

The undersigned attorney wishes to thank the Examiner for engaging in a telephone conference on November 25, 2003. During the telephone conference, the Examiner and the undersigned attorney discussed the rejected claims and the applied references. As a result of the discussion, the Examiner indicated that the arguments presented by the undersigned attorney had merit and would be considered upon receipt of the present response. Accordingly, the arguments presented during the November 25 telephone conference are summarized and expanded upon below.

A. Response to the Section 103 Rejections

1. Response to the Section 103 Rejection of Claim 1 and Claims Depending Therefrom

Claim 1 was rejected under 35 U.S.C. § 103 as being unpatentable over Leedy in view of Schmidt. Claim 1 is directed to an apparatus for processing microelectronic

workpieces, and includes a plurality of processing stations, all of which are manually accessible to a user to manually load workpieces for processing. An input/output station is configured to support at least one workpiece for automatic transfer to and from the processing station, and a transfer device is positioned proximate to the input/output station and the processing stations to automatically transfer workpieces between the input/output station and the processing stations. Because "all the processing stations of the apparatus" are manually accessible to the user "to manually load microelectronic workpieces for processing," the apparatus is flexible enough to be used in a variety of contexts. For example, the apparatus can be used in a research and development or test environment to test candidate processes in a case-by-case manner in any of the processing stations of the apparatus. The apparatus can also be used in a production setting by automatically moving the workpieces within the transfer device.

Leedy discloses a system 5 having processing modules 14a-14e arranged in a generally semicircular fashion within a chamber 10 around a wafer handler 12 (Figure 1). The wafer handler 12 can access wafers from a wafer cassette 22. Leedy notes that a module can be manually loaded with a wafer instead of using the handler 12 (Leedy at column 4, lines 39-40).

Schmidt discloses a conveyor system for transporting workpieces in a processing tool having two modules which each include a plurality of processing stations. The conveyor system and the modules may be combined to form a tool having a longitudinally disposed inlet and outlet. Schmidt is cited in the Office Action for disclosing processing stations as equivalent to process modules.

The significance of the alleged equivalency between processing stations and process modules, attributed to Schmidt, is not altogether clear. However, Leedy fails to disclose or suggest "all of the processing stations of the apparatus being manually accessible to a user to manually load microelectronic workpieces for processing." Instead, Leedy discloses only that "a module can be manually loaded." Leedy fails to illustrate or describe how the one module is manually accessible and furthermore, fails to disclose or suggest how access to the one module might allow access to all modules of his device. Without such a suggestion, and in light of Leedy's disclosure that the

modules or the chamber 10 in which the modules operate may be gas-tight, one of ordinary skill in the art would assume that manual access to the modules would be limited to the one module that Leedy discloses as being manually accessible (see Leedy at column 4, lines 14-33). Accordingly, Leedy fails to provide a suitable basis for a Section 103 rejection of claim 1 and therefore, the Section 103 rejection of claim 1 should be withdrawn.

Claims 2, 4, 5 and 8 depend from claim 1. Accordingly, the Section 103 rejections of these claims should be withdrawn for the reasons discussed above and for the additional features of these dependent claims.

2. Response to the Section 103 Rejection of Claim 14

Claim 14 depends from claim 1 and includes, in addition to the features described above with reference to claim 1, the following feature: all the processing stations of the apparatus are manually accessible from a single side of the apparatus. Leedy, as discussed above, discloses at best that "a module" can be manually loaded with a wafer. Accordingly, as discussed above, Leedy fails to disclose or suggest that "all the processing stations of the apparatus are manually accessible." Even assuming for the sake of argument that Leedy made such a disclosure or suggestion (and the undersigned attorney explicitly does not concede such a proposition), Leedy does not disclose or suggest that all his modules are manually accessible "from a single side of the apparatus," as recited in claim 14. Specifically, Leedy's modules are arranged in a semicircle around the wafer handler and accordingly, it would appear improbable, if not impossible, for a user to access all the modules from a single side of the apparatus. Therefore, the Section 103 rejection of claim 14 should be withdrawn.

3. Response to the Section 103 Rejection of Claim 15

Claim 15 includes features generally similar to those described above with reference to claim 14. Accordingly, the Section 103 rejection of claim 15 should be withdrawn for the reasons discussed above with reference to claim 14, and for the additional features of this claim.

4. Response to the Section 103 Rejection of Claim 18

Claim 18 depends from claim 15 and accordingly includes the features described above with reference to claim 15, in addition to the following feature: a transfer device is positioned between the access aperture (which allows manual access to all the processing stations from a single side of the apparatus) and the plurality of stations. Leedy, as described above, discloses that one of his modules is manually accessible. Accordingly, one would assume that the manual access to the one module would be through the chamber boundary 24 of the module shown in Figure 1. Assuming Leedy's module corresponds at least in part to the processing station of claim 18, the module is positioned between the access aperture and Leedy's handler. This is exactly the opposite of the arrangement of claim 18, in which the transfer device is positioned between the access aperture and the plurality of processing stations. Nor does Leedy provide any suggestion for altering his disclosed arrangement to reposition the handler relative to his modules. Therefore, the Section 103 rejection of claim 18 should be withdrawn.

5. Response to the Section 103 Rejection of Claim 19

Claim 19 is directed to an apparatus having features generally similar to those described above with reference to claim 1. Accordingly, the Section 103 rejection of claim 19 should be withdrawn for the reasons discussed above with reference to claim 1. Furthermore, claim 19 recites an enclosure disposed around at least one of the processing stations, the enclosure having at least one access aperture through which a user can manually access all the processing stations of the apparatus. A shield is positioned at least proximate to the transfer device to at least restrict contact between the user and the transfer device when the user accesses at least one of the processing stations through the aperture. Accordingly, an apparatus having the features of claim 19 can more easily be used in both a manual and production setting, while protecting the user from inadvertent contact with the transfer device.

Even assuming, as suggested in the Office Action, that Leedy's chamber boundary 24 corresponds at least in part to the shield of claim 19, Leedy then fails to disclose or suggest an enclosure having an apparatus through which the user can

manually access all the processing stations. Instead, it appears that Leedy's chamber boundary 24 corresponds at least in part to the enclosure of claim 19, in which case Leedy fails to disclose or suggest a shield that at least restricts contact between the user and the contact device. Therefore, the Section 103 rejection of claim 19 should be withdrawn.

6. Response to the Section 103 Rejection of Claim 57

Claim 57 includes features generally similar to those described above with reference to claim 1. In addition, claim 57 discloses an enclosure disposed around at least one of the processing stations of the apparatus, the enclosure having a first surface facing a first direction and a second surface facing opposite the first surface. The first surface has at least one first access aperture and the second surface has at least one second access aperture. The first and second access apertures alone are sized and positioned to allow manual access to the transfer device and all the processing stations. This arrangement can reduce the "footprint" required by the tool by reducing the aisle space around the tool required for access.

As discussed above with reference to claim 1, Leedy fails to suggest a tool that provides manual access to all the processing stations. Furthermore, assuming for the sake of argument that Leedy's handler 12 corresponds at least in part to the transfer device of claim 57, Leedy fails to disclose or suggest access apertures positioned to allow manual access to his handler. Still further, even assuming for the sake of argument that Leedy does disclose or suggest access to all the modules of the tool and the handler of the tool, it would appear from the arrangement of Leedy's tool that all four sides of Leedy's tool would require access apertures. Accordingly, Leedy teaches away from an arrangement in which access apertures provided in first and second opposite facing surfaces alone are sized to allow manual access to the transfer device and all the processing stations of the tool. Accordingly, the Section 103 rejection of claim 57 should be withdrawn.

Claims 60-66 depend from claim 57. Accordingly, the Section 103 rejections of these claims should be withdrawn for the reasons discussed above and for the additional features of these claims.

7. Response to the Section 103 Rejection of Claim 35

Claim 35 includes features generally similar to those of allowed claim 9. Accordingly, claim 35 should also be allowed and the Section 103 rejection of claim 35 should be withdrawn. The Section 103 rejection of claim 36, which depends from claim 35, should be withdrawn for the reasons discussed above and for the additional features of claim 36.

B. Response to the Section 112 Rejection of Claims 51-56

Claim 51 has been amended to clarify the antecedent basis of the first element of the claim. Accordingly, the Section 112 rejection of claim 51 should be withdrawn. Furthermore, for the reasons discussed above with reference to claim 51, the Section 112 rejection of claims 52-56 should also be withdrawn.

C. Response to the Indication of Allowable Subject Matter

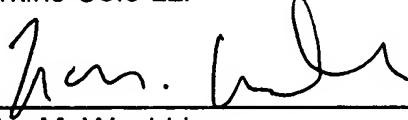
The undersigned attorney wishes to thank the Examiner for his indication of allowable subject matter. None of the claims indicated to be allowable have been amended herein.

D. Conclusion

In view of the foregoing, the claims pending in the application comply with the requirements of 35 U.S.C. § 112 and patentably define over the applied art. A Notice of Allowance is, therefore, respectfully requested. If the Examiner has any questions or believes a telephone conference would expedite prosecution of this application, the Examiner is encouraged to call the undersigned at (206) 359-3257.

Respectfully submitted,

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